

REMARKS

Claims 1-18, 20-79, and 108 are pending. Claims 1-18, 20-79, and 108 stand rejected. Claims 1, 59-61, 78, 79, and 108 have been amended. Entry of the amendment and reconsideration of the pending claims in view of the above amendments and following remarks is respectfully requested.

Amendment of the Independent Claims

The pending independent claims, Claims 1, 59-61, 78, 79, and 108, have been amended to reflect the nature of the transition zones intermediate adjacent strata of the claimed composites. The independent claims have been amended to recite that each transition zone comprises a substantially uniform mixture of the components of the adjacent strata.

Support for the amendments can be found throughout the specification as originally filed, particularly the sections described below.

The invention provides "a unitary composite that includes three strata" in which "adjacent strata are integrally connected through a transition zone to provide a structure with adjacent strata in intimate fluid communication." See page 5, lines 5-8. The origin of the composite's transition zone can be readily seen and understood with reference to FIGURE 3. Composite's having a various transition zone thickness are illustrated schematically in FIGURES 2A-2C. At page 6, line 26 through page 7, line 8, the specification provides a description of the a method and device for making the claimed composites having transition zones intermediate adjacent strata.

Referring to FIGURE 3, headbox 212 includes walls 222 and 224 and dividers (or baffles) 214a and 214b creating first chamber 226, second chamber 227, and third chamber 228. The length of dividers 214a and 214b can be varied such that the point at which furnishes introduced into chambers 226, 227, and 228 meet and commence mixing can be adjusted. The variances in the length of dividers 214a and 214b are depicted as dashed lines in FIGURE 3. In accordance with the present invention, the point at which furnishes

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meet and commence mixing in the headbox (e.g., the length of dividers) need not be the same. By adjusting the point at which furnishes meet, composites having individual strata and transition zones having variable thickness within the composite can be provided. For example, a three-strata composite can have two transitions zones having the same thickness as shown in FIGURES 2A and 2B. Referring to FIGURES 2A and 2B, representative composites 10 have first stratum 12, second stratum 16, third stratum 14, and transition zones 13. The thicker transition zones 13 in FIGURE 2A compared to the thinner transition zones 13 in FIGURE 2B result from forming using the headbox of FIGURE 2 using relatively shorter dividers 214a and 214b. Alternatively, as described above and illustrated in FIGURE 2C, representative composite 10 can include transition zones 13 having different thicknesses.

The nature of each transition zone is described at page 6, lines 16-25:

the composite's first transition zone results from the mixing of the first and second fibrous furnishes (e.g., in the headbox) and includes materials from both furnishes. Likewise, the composite's second transition zone results from the mixing of the second and third fibrous furnishes (e.g., in the headbox) and includes materials from both furnishes.

As is clear from the specification, each transition zone intermediate adjacent strata in the claimed composite is composed of a substantially uniform mixture of the components of the two furnishes that make up the strata adjacent the transition zone.

The Rejection of Claims 1-16, 20-25, 32-53, 62-69, 71, and 108 Under 35 U.S.C. § 103(a)

Claims 1-16, 20-25, 32-53, 62-69, 71, and 108 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,294,478, issued to Wanek et al., in view of U.S. Patent No. 4,018,646, issued to Ruffo. Withdrawal of the rejection is respectfully requested for the following reasons.

Claims 1 and 108 have been amended. Claims 2-16, 20-25, 32-53, 62-69 and 71 depend from Claim 1 or claims that depend from Claim 1. As amended, Claims 1 and 108 recite that the each transition zone intermediate adjacent strata in the claimed composite is composed of a substantially uniform mixture of the components of the two furnishes that make up the strata

adjacent the transition zone. Applicants submit that the cited references fail to teach or suggest the invention as now claimed.

Specifically, the Examiner has cited the Ruffo reference as motivation for commingled transition zones. The Ruffo reference describes an air-laid nonwoven web comprised of two different types of fibers, the web having a substantially continuous transition between the fibers composing each opposed face. One fiber type predominates at each face, but decreases in amount relative to a second fiber type substantially uniformly away from the face at which it predominates. See Col. 11, line 63 to Col. 12, line 1.

The Ruffo reference fails to teach or suggest a composite having the recited transition zones. The cited references provide no motivation to make a composite having a transition zone between adjacent strata in which the transition zone is composed of a substantially uniform mixture of the components of the two furnishes that make up the strata adjacent the transition zone.

Because the cited references fail to teach, suggest, provide any motivation to make, or otherwise render obvious the invention as now claimed, the claimed invention is nonobvious and patentable over the cited references. Withdrawal of this ground for rejection is respectfully requested.

The Rejection of Claims 17 and 18 Under 35 U.S.C. § 103(a)

Claims 17 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,294,478, issued to Wanek et al., in view of U.S. Patent No. 4,018,646, issued to Ruffo et al., and U.S. Patent No. 5,677,635, issued to Win et al. Withdrawal of the rejection is requested for the following reasons.

Claims 17 and 18 depend from Claim 1, which has been amended. The amendment to Claim 1 is discussed above.

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Because the cited references, either alone or in combination, fail to teach, suggest, provide any motivation to make, or otherwise render obvious the invention as now claimed, the invention is nonobvious and patentable over the cited references. Withdrawal of this ground for rejection is respectfully requested.

The Rejection of Claims 27-31, 55-61, 70, and 72-79 Under 35 U.S.C. § 103(a)

Claims 27-31, 55-61, 70, and 72-79 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,294,478, issued to Wanek et al., in view of U.S. Patent No. 4,018,646, issued to Ruffo et al., and U.S. Patent No. 5,225,047, issued to Graef et al. Withdrawal of the rejection is respectfully requested for the following reasons.

Claims 27-31, 55-58, and 74 depend from Claim 1, which has been amended. Claims 72, 73, 75-77 depend from Claims 59-61, which have been amended. Claims 78 and 79 have been amended. The amendments to Claims 1, 59-61, 78, and 79 are discussed above.

Because the cited references, either alone or in any combination, fail to teach, suggest, provide any motivation to make, or otherwise render obvious the invention as now claimed, the claimed invention is nonobvious and patentable over the cited references. Withdrawal of this ground for rejection is respectfully requested.

The Rejection of Claims 74-77 Under 35 U.S.C. § 103(a)

Claims 74-77 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,294,478, issued to Wanek et al., in view of U.S. Patent No. 4,018,646, issued to Ruffo et al., U.S. Patent No. 5,225,047, issued to Graef et al., and U.S. Patent No. 5,437,653, issued to Gilman et al. Withdrawal of the rejection is requested for the following reasons.

Claim 74 depends from Claim 1, which has been amended. Claim 75 depends from Claim 59, which has been amended. Claims 76 and 77 depend from Claims 60 and 61,

respectively, which have been amended. The amendments to Claims 1 and 59-61 are discussed above.

Because the cited references, either alone or in any combination, fail to teach, suggest, provide any motivation to make, or otherwise render obvious the invention as now claimed, the claimed invention is nonobvious and patentable over the cited references. Withdrawal of this ground for rejection is respectfully requested.

Conclusion

In view of the above amendments and foregoing remarks, applicants believe that Claims 1-18, 20-79, and 108 are in condition for allowance. Applicants believe that the amendment places the application in condition for allowance and does not now raise issues that would require additional searching or consideration by the Examiner. Entry of the amendment is respectfully requested. If any issues remain that may be expeditiously addressed in a telephone interview, the Examiner is encouraged to telephone applicants' attorney at 206.695.1755.

Respectfully submitted,

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